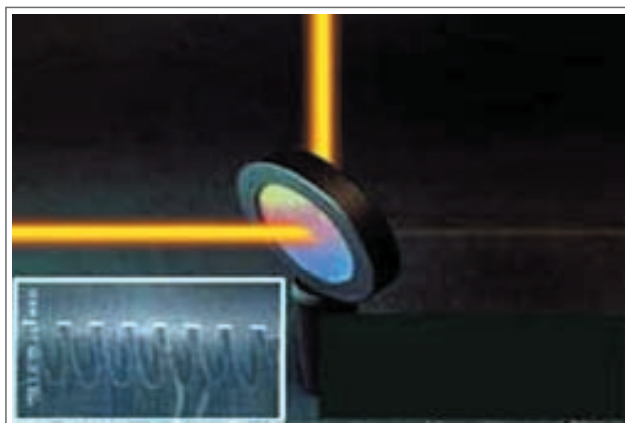


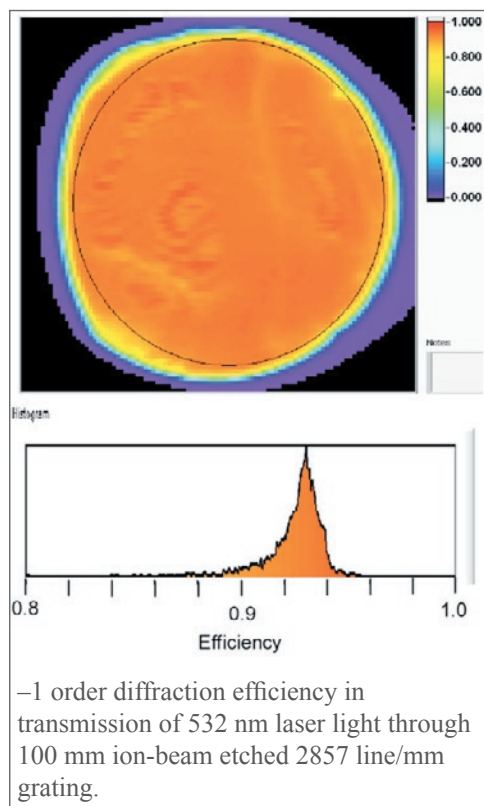
## Advanced Optical Components & Technology

### High-Efficiency, Ion-Beam-Etched Transmission Gratings

The grating at right was ion-beam-etched into a fused-silica substrate, and transmits 1,064-nanometer light at 90 degrees with greater than 95 percent efficiency and a 45-degree angle of incidence. The grating's microstructure is shown in the inset. The period is 1,333 l/mm, and the modulation depth is 1.6 microns.



### 2857 line/mm gratings



### Gratings in Sapphire



A 1200 line/mm transmission grating etched in Sapphire.